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EXAMINER	
TRAN, THAI Q	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/715,901	HARVILLE, MICHAEL L.	
	Examiner	Art Unit	
	Thai Tran	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-68* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32 and 35-68* is/are rejected.

7)☒ Claim(s) *33 and 34* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/8/2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it exceeds 150 words.

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5-6, 8-32, 39-40, 44-51, 57-60, and 63-66 are rejected under 35 U.S.C. 102(b) as being anticipated by Ellis et al (US 5,504,518).

Regarding claim 1, Ellis et al discloses a method (Fig. 11) for detecting one or more commercial breaks a set of audiovisual content spanning a duration time, each

commercial break including one or more commercials, the method comprising the steps of:

identifying candidate times within the duration of time spanned by the set of visual content based on an evaluation of one or more cues identified in the audiovisual content, each candidate time representing a possible starting and/or ending time of a commercial (detecting the cues disclosed in col. 30, lines 17-39);

assigning a score to each candidate time (the strength of the cues disclosed from col. 31, line 42 to col. 32, line 65);

evaluating, for each of one or more candidate times, 1) one or more secondary cues that are each different from the one or more cues used to identify the candidate time, and/or 2) the relationship between the candidate time and one or more other candidate times, wherein the score assigned to the candidate time can be adjusted based on the evaluation (detecting the cues disclosed in col. 30. lines 17-39); and

constructing the one or more commercial breaks based on an evaluation of 1) the scores of the candidate times after the step of evaluating and 2) a relationship between, or relationships among, the candidate times (the combination of scene change cue and audio mute cue disclosed in col.. 32, lines 5-9 and the combination of explicit cues and implicit cue disclosed from col. 32, line 66 to col. 33, line 19).

Regarding claim 2, Ellis et al discloses the claimed identifying the presence of one or more cues audiovisual content (detecting the cues disclosed in col. 30, lines 17-39).

Regarding claim 3, Ellis et al further discloses the claimed wherein the step of identifying the presence of one or more cues in the audiovisual content further comprises evaluating the audiovisual content to identify the presence of one or more cues regarding one or more of the following possible characteristics of the audiovisual content: 1) an audio pause in the audio content, 2) a sequence of black frames in the visual content, 3) a scene cut or fade the visual content, 4) significant change in average volume the audio content, 5) the presence of music in the audio content, 6) speaker identity, 7) the density of scene breaks or fades in the visual content, 8) the absence of a usually present network icon, 9) the degree of motion in a period visual content, 10) the presence of text in the visual content, 11) the occurrence of specified closed-captioning formatting signals and 12) the absence of closed-captioning (detecting the cues disclosed in col. 30, lines 17-39).

Regarding claim 5, Ellis et al discloses the claimed wherein the step of identifying the presence of one or more cues in the audiovisual content further comprises valuating audiovisual content to identify the presence of a cue regarding the presence of music in the audio content (detecting the cues disclosed in col. 30, lines 17-39).

Regarding claim 6, Ellis et al discloses the claimed wherein the step of identifying the presence of one or more cues in the audiovisual content further comprises valuating the audiovisual content to identify the presence of a cue regarding the density of scene breaks fades in the visual content (detecting the cues disclosed in col. 30, lines 17-39). Apparatus claim 8 is rejected for the same reasons as discussed in corresponding method claim 1 above.

System claim 8 is rejected for the same reasons as discussed in method claim 1 above.

The computer readable medium or media encoded with one or more computer program claim 9 is rejected for the same reasons as discussed in method claim 1 and control computer 30 disclosed from col. 9, line 55 to col. 10, line 6.

Method claim 10 is rejected for the same reasons as discussed in claim 1 above.

Method claim 11 is rejected for the same reasons as discussed in claim 1 above.

Regarding claim 12, Ellis et al discloses the claimed wherein the step of assigning further comprises the step of assigning the same score to each candidate time (detecting the cues disclosed in col. 30, lines 17-39).

Regarding claim 13, Ellis et al discloses the claimed wherein the step of assigning further comprises the step of assigning a score to each candidate time in accordance with the type of cue or cues evaluated to identify the candidate time (the strength of the cues disclosed from col. 31, line 42 to col. 32, line 65).

Regarding claim 14, Ellis et al discloses the claimed wherein the step of assigning further comprises the step of assigning a score to each candidate time in accordance with the degree of presence in the audiovisual content of the cue or cues evaluated to identify the candidate time (the strength of the cues disclosed from col. 31, line 42 to col. 32, line 65).

Regarding claim 15, Ellis et al discloses the claimed wherein the step of assigning further comprises the step of assigning a score to each candidate time in accordance with the degree of confidence of identification of the cue or cues evaluated

to identify the candidate time (the strength of the cues disclosed from col. 31, line 42 to col. 32, line 65).

Regarding claim 16, Ellis et al discloses the claimed wherein the step of evaluating further comprises the step of determining the presence or absence a secondary cue within a time window that includes the candidate time or to which the candidate time is sufficiently proximate (the duration of the implicit cues disclosed in col. 32, lines 12-65).

Regarding claim 17, Ellis et al discloses the claimed wherein the duration and/or location of the time window depends on the type of the secondary cue (the duration of the implicit cues disclosed in col. 32, lines 12-65).

Regarding claim 18, Ellis et al discloses the claimed wherein the score adjusted in accordance with the type of the secondary cue (the score of the duration disclosed in col. 38, lines 31-50).

Regarding claim 19, Ellis et al discloses the claimed wherein the score is adjusted in accordance with the degree of presence of the secondary cue (the score of the duration disclosed in col. 38, lines 31-50).

Regarding claim 20, Ellis et al discloses the claimed wherein the score is adjusted in accordance with the degree of confidence of identification of the secondary cue (the score of the duration disclosed in col. 38, lines 31-50).

Regarding claim 21, Ellis et al discloses the claimed wherein the step of evaluating further comprises the step of comparing the candidate time and/or a

relationship between, or relationships among, the candidate time and one or more other candidate times to one or more probability models that specify one or more expected characteristics of commercial start and/or end times, and/or an expected relationship between, or relationships among, commercial start and/or end times (the combination of scene change cue and audio mute cue disclosed in col.. 32, lines 5-9 and the combination of explicit cues and implicit cue disclosed from col. 32, line 66 to col. 33, line 19).

Regarding claim 22, Ellis et al discloses the claimed wherein one of the probability models specifies the expected temporal separation of commercial start and end times (the duration of the implicit cues disclosed in col. 32, lines 12-65).

Regarding claim 23, Ellis et al discloses the claimed wherein one of the probability models specifies the expected location of one or more commercial start and/or end times within. the duration of time spanned by the set of audiovisual content (the combination of scene change cue and audio mute cue disclosed in col.. 32, lines 5-9 and the combination of explicit cues and implicit cue disclosed from col. 32, line 66 to col. 33, line 19).

Regarding claim 24, Ellis et al discloses the claimed wherein one of the probability models is derived from statistics concerning any type of audiovisual content (detecting the cues disclosed in col. 30, lines 17-39).

Regarding claim 25, Ellis et al discloses the claimed wherein one of the probability models is derived from statistics concerning only audiovisual content that is

of the same type as the set of audiovisual content in which the one or more commercials breaks are being detected (detecting the cues disclosed in col. 30, lines 17-39).

Regarding claim 26, Ellis et al discloses the claimed wherein the score adjustment varies in accordance with the magnitude of the score before adjustment (the score of the duration disclosed in col. 38, lines 31-50).

Regarding claim 27, Ellis et al discloses the claimed step of eliminating candidate times having an adjusted score below a specified threshold (selecting segments as possible new segments of interest having time intervals or segment lengths with are likely to correspond to new segments of interest disclosed from col. 32, line 66 to col. 33, line 9).

Regarding claim 28, Ellis et al discloses the claimed wherein the step of constructing further comprises the step of comparing a relationship between, or relationships among? the candidate times one or more probability models that specify an expected relationship between, or relationships among, commercial start and/or end times (the combination of scene change cue and audio mute cue disclosed in col.. 32, lines 5-9 and the combination of explicit cues and implicit cue disclosed from col. 32, line 66 to col. 33, line 19).

Regarding claim 29, Ellis et al discloses the claimed wherein one of the probability models specifies the expected duration of a commercial break (the duration of the implicit cues disclosed in col. 32, lines 12-65).

Regarding claim 30, Ellis et al discloses the claimed wherein one of the

probability models specifies the expected temporal separation of commercial breaks (the duration of the implicit cues disclosed in col. 32, lines 12-65).

Regarding claim 31, Ellis et al discloses the claimed wherein one of the probability models is derived from statistics concerning any type of audiovisual content (detecting the cues disclosed in col. 30, lines 17-39).

Regarding claim 32, Ellis et al discloses the claimed wherein one of the probability models is derived from statistics concerning only audiovisual content that of the same type as the set of audiovisual-content in which the one or more commercials breaks are being detected (detecting the cues disclosed in col. 30, lines 17-39).

Regarding claim 39, Ellis et al discloses the claimed the step of searching for audiovisual content (detecting the cues disclosed in col. 30, lines 17-39).

Regarding claim 40, Ellis et al discloses the claimed wherein the audiovisual content is represented by a television signal (col. 8, lines 60-67 and col. 49, lines 47-52).

Regarding claim 44, Ellis et al discloses the claimed wherein the method detects the one or more commercial breaks in real time as the audiovisual content is acquired for display by a display device (detecting the cues disclosed in col. 30, lines 17-39).

Regarding claim 45, Ellis et al discloses a method (Fig. 13) for detecting one or more commercial breaks in a set of audiovisual content spanning a duration of time, each commercial break including one or more commercials, the method comprising the steps of:

selecting a plurality of times within the duration of time spanned by the set of audiovisual content as a current set of commercial starting and./or ending times (scanning the cues and picks out all intervals that are reasonable possibilities for new segments and placing such intervals in a list of possible segments for later re-examination disclosed from col. 36, line 64 to col. 37, line 12);

selecting a revised set of commercial starting and/or ending times including the current set of commercial starting and/or ending times and one or more additional times within the duration of time spanned by the set of audiovisual content (scanning the cues and picks out all intervals that are reasonable possibilities for new segments and placing such intervals in a list of possible segments for later re-examination disclosed from col. 36, line 64 to col. 37, line 12); and

comparing the revised set of commercial starting and/or ending times the current set of commercial starting and/or ending times to determine whether the revised set of commercial starting and/or ending times constitute a batter set of commercial starting and/or ending times than the current set of commercial starting and/or ending times (comparing each possible segment with all other segments in the list to determine if conflicts are present and deciding which segment shall be accorded a higher priority based upon a linear combination of relevant factors disclosed in col. 37, lines 13-30), wherein:

if not, the method further comprises the step of identifying the current set of commercial starting and/or ending times as a final set of commercial starting

and/or ending times (reporting the higher priority segment to the database disclosed in col. 37, lines 13-30); and

if so, the method further comprises the steps of:

identifying the revised set of commercial starting and/or ending times as the current set of commercial starting and/or ending times (comparing each possible segment with all other segments in the list to determine if conflicts are present and deciding which segment shall be accorded a higher priority based upon a linear combination of relevant factors disclosed in col. 37, lines 13-30);

performing the step of selecting a revised set of commercial starting and/or ending times (comparing each possible segment with all other segments in the list to determine if conflicts are present and deciding which segment shall be accorded a higher priority based upon a linear combination of relevant factors disclosed in col. 37, lines 13-30); and

performing the step of comparing the revised set of commercial starting and/or ending times to the current set of commercial starting and/or ending times (comparing each possible segment with all other segments in the list to determine if conflicts are present and deciding which segment shall be accorded a higher priority based upon a linear combination of relevant factors disclosed in col. 37, lines 13-30).

Regarding claim 46, Ellis et al disclosed the claimed wherein the step of selecting a current set of commercial starting and/or ending times further comprises the steps

identifying candidate times within the duration time spanned by the set of audiovisual content, each candidate time representing a commercial (scanning the cues and picks out all intervals that are reasonable possibilities for new segments and placing such intervals in a list of possible segments for later re-examination disclosed from col. 36, line 64 to col. 37, line 12); and

selecting candidate times as one of the current set of commercial starting and ending times based on an evaluation a possible starting and/or ending time of each candidate time to determine likelihood that the candidate time a commercial starting time or ending time (comparing each possible segment with all other segments in the list to determine if conflicts are present and deciding which segment shall be accorded a higher priority based upon a linear combination of relevant factors disclosed in col. 37, lines 13-30).

Regarding claim 47, Ellis et al discloses a method (Fig. 11) for detecting audiovisual content spanning a duration of time, the method comprising the steps of:

identifying a candidate time within the duration of time spanned by the set of audiovisual content, the candidate time representing a possible starting and/or ending time of a commercial (detecting the cues disclosed in col. 30, lines 17-39); and

evaluating the candidate time to determine a likelihood that the candidate time is a commercial starting time and/or ending time, wherein the evaluation is based at least a commercial in a set of part on one or more characteristics of audiovisual content occurring after the candidate time (the combination of scene change cue and audio

mute cue disclosed in col.. 32, lines 5-9 and the combination of explicit cues and implicit cue disclosed from col. 32, line 66 to col. 33, line 19).

Regarding claim 48, Ellis et al discloses the claimed wherein the evaluation on one or more characteristics audiovisual content occurring before the candidate time (the combination of scene change cue and audio mute cue disclosed in col.. 32, lines 5-9 and the combination of explicit cues and implicit cue disclosed from col. 32, line 66 to col. 33, line 19).

Regarding claim 49, Ellis et al discloses the claimed wherein the evaluation is based on one or more characteristics of audiovisual content occurring throughout the entire duration of time (detecting the cues disclosed in col. 30, lines 17-39).

Regarding claim 50, Ellis et al discloses a method (Fig. 11) for detecting a commercial in a set of audiovisual content spanning a duration of time, the method comprising the steps of:

identifying a candidate time within the duration of time spanned by the set audiovisual content, the candidate time representing a possible starting and/or ending time of a commercial (detecting the cues disclosed in col. 30, lines 17-39); and

evaluating the candidate time to determine a likelihood that the candidate time a commercial starting time and/or ending time, wherein the evaluation is based at least in part on relationship of the candidate time to one or more other candidate times (the combination of scene change cue and audio mute cue disclosed in col.. 32, lines 5-9 and the combination of explicit cues and implicit cue disclosed from col. 32, line 66 to col. 33, line 19).

Regarding claim 51, Ellis et al discloses the claimed wherein the evaluation is based on a relationship of the candidate time to all other candidate times (scanning the cues and picks out all intervals that are reasonable possibilities for new segments and placing such intervals in a list of possible segments for later re-examination disclosed from col. 36, line 64 to col. 37, line 12).

Regarding claim 57, Ellis et al discloses a method (Fig. 11) for detecting a commercial a set of audiovisual content spanning a duration of time, the method comprising the steps of:

evaluating the audiovisual content to identify the presence of a cue regarding the presence of music audio content (detecting the cues disclosed in col. 30, lines 17-39); and

identifying a candidate time within the duration time spanned by the set of audiovisual content based on an evaluation of the identified cue, the candidate time the representing a possible starting and/or ending time of a commercial (the combination of scene change cue and audio mute cue disclosed in col.. 32, lines 5-9 and the combination of explicit cues and implicit cue disclosed from col. 32, line 66 to col. 33, line 19).

Regarding claim 58, Ellis et al discloses the claimed step of evaluating the audiovisual content to identify the presence of a cue regarding a sequence of black frames in the visual content, wherein a candidate time is identified based on an evaluation of one or more music and/or black frame cues (detecting the cues disclosed in col. 30, lines 17-39, the combination of scene change cue and audio mute

cue disclosed in col.. 32, lines 5-9, and the combination of explicit cues and implicit cue disclosed from col. 32, line 66 to col. 33, line 19).

Regarding claim 59, Ellis et al discloses the claimed step of evaluating the audiovisual content to identify the presence of a cue regarding an audio pause in the audio content, wherein a candidate time identified based on an evaluation one or more music and/or audio pause cues (detecting the cues disclosed in col. 30, lines 17-39, the combination of scene change cue and audio mute cue disclosed in col.. 32, lines 5-9, and the combination of explicit cues and implicit cue disclosed from col. 32, line 66 to col. 33, line 19).

Regarding claim 60, Ellis et al discloses the claimed step of evaluating the audiovisual content to identify the presence of a cue regarding a scene cut or fade the visual content, wherein a candidate time is identified based on an evaluation of one or more music and/or scene cut/fade cues (detecting the cues disclosed in col. 30, lines 17-39, the combination of scene change cue and audio mute cue disclosed in col.. 32, lines 5-9, and the combination of explicit cues and implicit cue disclosed from col. 32, line 66 to col. 33, line 19).

Regarding claim 63, Ellis et al discloses a method (Fig. 11) for detecting a commercial in a set of spanning a duration time, the method audiovisual content comprising the steps of:

evaluating the audiovisual content identify the presence of a cue regarding the density of scene cuts or fades in the visual content (detecting the cues disclosed in col. 30, lines 17-39); and

identifying a candidate time within the duration of time spanned by the set of audiovisual content based on an evaluation of the identified cue, the candidate time representing a possible starting and/or ending time of a commercial (the combination of scene change cue and audio mute cue disclosed in col.. 32, lines 5-9, and the combination of explicit cues and implicit cue disclosed from col. 32, line 66 to col. 33, line 19).

Regarding claim 64, Ellis et al discloses the claimed step of evaluating the audiovisual content to identify the presence of a cue regarding a sequence of black frames the visual content, wherein a candidate time is identified based on an evaluation of one or more scene cut/fade density and/or black frame cues (detecting the cues disclosed in col. 30, lines 17-39, the combination of scene change cue and audio mute cue disclosed in col.. 32, lines 5-9, and the combination of explicit cues and implicit cue disclosed from col. 32, line 66 to col. 33, line 19).

Regarding claim 65, Ellis et al discloses the claimed step of evaluating the audiovisual content to identify the presence of a cue regarding an audio pause in the audio content, wherein a candidate time identified based on an evaluation one or more scene cut/fade density and/or audio pause cues (detecting the cues disclosed in col. 30, lines 17-39, the combination of scene change cue and audio mute cue disclosed in col.. 32, lines 5-9, and the combination of explicit cues and implicit cue disclosed from col. 32, line 66 to col. 33, line 19).

Regarding claim 66, Ellis et al discloses the claimed step of evaluating the audiovisual content to identify the presence of a cue regarding a scene cut or fade in

the visual content, wherein a candidate time is identified based on an evaluation of one or mare scene cut/fade density and/or scene cut/fade cues (detecting the cues disclosed in col. 30, lines 17-39, the combination of scene change cue and audio mute cue disclosed in col.. 32, lines 5-9, and the combination of explicit cues and implicit cue disclosed from col. 32, line 66 to col. 33, line 19).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 4, 52-55 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al (US 5,504,518) in view of Legate (US 6,735,776 B1).

Regarding claim 4, Ellis et al discloses all the claimed limitations as discussed in claim 1 above except for providing that wherein the step of identifying the presence of one or more cues in the audiovisual content further comprises evaluating the audiovisual content to identify the presence of a cue regarding the absence of a usually present network icon.

Legate teaches that icons are used to identify the insertion location for local advertising (col. 6, lines 48-56).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the detecting of the icons as taught by Legate into Ellis et al's system in order to accurately detecting commercials.

Claim 52 is rejected for the same reasons as discussed in claim 4 above.

Regarding claim 53, Ellis et al discloses the claimed step of evaluating the audiovisual content to identifying the presence of a cue regarding a sequence of black frames in the visual content, wherein a candidate time is identified based on an evaluation of one or more network icon and/or black frame cues (detecting the cues disclosed in col. 30, lines 17-39).

Regarding claim 54, Ellis et al discloses the claimed step of evaluating the audiovisual content to identify the presence of a cue regarding an audio pause in the audio content, wherein a candidate time is identified based on an evaluation of one or more network icon and/or audio pause cues (detecting the cues disclosed in col. 30, lines 17-39).

Regarding claim 55, Ellis et al discloses the claimed step of evaluating the audiovisual content to identify the presence of a cue regarding a scene cut or fade in the visual content, wherein a candidate time is identified based on an evaluation of one or more network icon and/or scene cut/fade cues (detecting the cues disclosed in col. 30, lines 17-39).

Claim 62 is rejected for the same reasons as discussed in claim 4 above.

7. Claims 7 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al (US 5,504,518) in view of Gabbe et al (US 5,550,965).

Regarding claim 7, Ellis et al discloses all the claimed limitations as discussed in claim 1 above except for providing that wherein the step of identifying the presence of

one or more cues in the audiovisual content further comprises evaluating the audiovisual content to identifying the presence of a cue regarding speaker identify.

Gabbe et al teaches that episode data is generated on the basis of significant video images determined by scene changes and other information and, in addition, episode data may be based on a significant audio change, delineated from the primary data, e.g. based on speaker changes and other information (col. 2, lines 9-19).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the detecting of the speaker changes as taught by Gabbe et al into Ellis et al's system in order to accurately detecting commercials.

Claim 68 is rejected for the same reasons as discussed in claim 7 above.

8. Claims 35-38, 41-43, 61, and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al (US 5,504,518) in view Dimitrova et al (US 6,100,941).

Regarding claim 35, Ellis et al discloses all the claimed limitations except for providing the step of editing the audiovisual content based on the detected commercial breaks.

Dimitrova et al teaches that many users, who are not interested in the content of commercials or promotions that are interposed within the television program, generally skips through these commercials (col. 1, lines 11-20 and the abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the skipping of commercials as taught by Dimitrova et al into Ellis et al's system in order to skip the commercials when users are not interested in the content of commercials.

Regarding claim 36, Dimitrova et al teaches the claimed wherein the step of editing the audiovisual content based on the detected commercial breaks further comprises the step of deleting the audiovisual content representing a commercial (skipping the commercials disclosed in col. 1, lines 11-20 and the abstract).

Regarding claim 37, Dimitrova et al teaches the claimed wherein the step of editing the audiovisual content based on the detected commercial breaks further comprises the step of modifying the audiovisual content representing a commercial (skipping the commercials disclosed in col. 1, lines 11-20 and the abstract).

Regarding claim 38, Ellis et al discloses all the claimed limitations as discussed in claim 1 above except for providing the step of skipping a commercial during viewing of the audiovisual content.

Dimitrova et al teaches that many users, who are not interested in the content of commercials or promotions that are interposed within the television program, generally skips through these commercials (col. 1, lines 11-20 and the abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the skipping of commercials as taught by Dimitrova et al into Ellis et al's system in order to skip the commercials when users are not interested in the content of commercials.

Regarding claim 41, Ellis et al discloses all the claimed limitations except for providing that the audiovisual content is represented by computer-readable data.

Dimitrova et al also teaches that input 52 can be any video or combination video/audio source and it could be, for example, a television signal or an Internet file broadcast (col. 5, lines 12-18).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the Internet file as taught by Dimitrova et al as input source into Ellis et al's system since it merely amounts to selecting an alternative equivalent input source.

Regarding claim 42, Dimitrova et al discloses the claimed wherein audiovisual content is represented by computer-readable data acquired via a computer network (col. 5, lines 12-18).

Regarding claim 43, Dimitrova et al discloses the claimed wherein audiovisual content is represented by computer-readable data acquired via a computer network (col. 5, lines 12-18).

Regarding claim 61, Ellis et al discloses all the claimed limitations as discussed in claim 57 above except for providing the step of evaluating the audiovisual content to identify the presence of a cue regarding the occurrence of specified closed-captioning formatting signals and/or the absence of closed-captioning, wherein a candidate time is identified based on an evaluation of one or more music and/or closed captioning cues.

Dimitrova et al also discloses that commercial can be detected by closed captioning processor 116 (col. 18, lines 19-35).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the closed captioning processor 116 of Dimitrova et al into Ellis et al's system in order to accurately detect commercial.

Claim 67 is rejected for the same reasons as discussed in claim 61 above.

9. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al in view of Legate as applied to claim 52 above, and further in view of Dimitrova et al (US 6,100,941).

The combination of Ellis et al and Legate discloses all the claimed limitations as discussed in claim 52 above except for providing the step of evaluating the audiovisual content to identify the presence of a cue regarding the occurrence of specified closed-captioning formatting signals and/or the absence of closed-captioning, wherein a candidate time is identified based on an evaluation of one or more network icon and/or closed captioning cues.

Dimitrova et al also discloses that commercial can be detected by closed captioning processor 116 (col. 18, lines 19-35).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the closed captioning processor 116 of Dimitrova et al into Ellis et al's system in order to accurately detect commercial.

Allowable Subject Matter

10. Claims 33-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The closest prior art, Ellis et al (US 5,504,518) discloses a system for detecting broadcast commercial, either singularly or in combination, fail to anticipate or render the claimed limitations "determining whether each probability of the temporal separation between the candidate time being evaluated and a candidate time already included in the current commercial break is above a specified threshold value"; "determining whether the probability of the duration of the current commercial break, if the candidate time being evaluated is added to the current commercial break, is above a specified threshold value"; and "determining whether each probability of the temporal separation between the candidate time being evaluated and an already existing commercial break, if any, is above a specified threshold value, wherein if each of the three probabilities is above the corresponding specified threshold value, the candidate time being evaluated is added to the current commercial break" as recited in claim 33 obvious.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The cited references relate to an apparatus for detecting commercials.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai Tran whose telephone number is (571) 272-7382. The examiner can normally be reached on Mon. to Friday, 8:00 AM to 5:30 PM.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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